

1-14. (Cancelled)

15. (Currently Amended) A method for the selective catalytic reduction of nitrogen oxides, comprising: introducing a reducing agent into a flue gas containing nitrogen oxides; then passing the flue gas through at least a first layer of nitrogen oxide reducing catalyst where an amount of nitrogen oxides in said flue gas is reduced; then passing the flue gas through a heat exchanger that removes heat from the flue gas and also mixes the flue gas and the reducing agent; and then passing the flue gas through at least one additional layer of nitrogen oxide reducing catalyst where an additional amount of nitrogen oxides in the flue gas is reduced;

wherein said at least one heat exchanger is at least one interstage heat exchanger, that lowers flue gas temperature, and that acts as a mixing body to lower the standard deviation of the NH_3/NO ratio entering catalyst layers after the-first catalyst layer, thus providing a higher amount of consumption of both ammonia and NO_x in a reactor than would be achieved in the absence of the at least one interstage heat exchanger; and

wherein the at least one interstage heat exchanger transfers 50-175°F. of heat; and comprises utilizing a one-piece heat exchange element in a Ljungstrom-type heat exchanger, and wherein ammonium sulfates and ammonium bisulfates are cleaned from air heater surfaces with sootblowers located at both the inlet and outlet of the air heater.

16-17. (Cancelled)

18. (Original) The method of claim 15 wherein the reducing medium is ammonia and the NH_3/NO ratio is between 0.90 and 0.98.

19. (Original) The method of claim 18 wherein the NH_3/NO ratio is about 1:1.

20. (Original) The method of claim 15, further comprising before passing the flue gas through the at least one additional catalyst layer, passing the flue gas through a separate static mixing device to mix reducing agent and NO , further mixing the partially reacted NH_3 and NO .

21. (Original) The method of claim 15, further comprising passing the flue gas through at least one additional layer of a special-purpose catalyst for oxidation of mercury, said special-purpose catalyst not representing a proportional change in concentration of the ingredients of a conventional SCR catalyst, said special-purpose catalyst having a formulation preferential for Hg oxidation

22. (Original) The method of claim 15, further comprising, passing a portion of the flue gas through a combustion air bypass duct controlled by a modulating damper to direct combustion air leaving a compressed, one stage air

heater directly to a boiler thus bypassing the interstage heater after the first catalyst layer, while retaining a minimum amount of air in the interstage heater exchanger avoiding overheating of tubes, preserving gas temperature in the first catalyst layer above a minimum required to avoid ABS deposition.

23-25 (Cancelled)

26. (New) A method for the selective catalytic reduction of nitrogen oxides, comprising: introducing a reducing agent into a flue gas containing nitrogen oxides; then passing the flue gas through at least a first layer of nitrogen oxide reducing catalyst where an amount of nitrogen oxides in said flue gas is reduced; then passing the flue gas through a heat exchanger that removes heat from the flue gas and also mixes the flue gas and the reducing agent; and then passing the flue gas through at least one additional layer of nitrogen oxide reducing catalyst where an additional amount of nitrogen oxides in the flue gas is reduced;

wherein said at least one heat exchanger is at least one interstage heat exchanger, that lowers flue gas temperature, and that acts as a mixing body to lower the standard deviation of the NH_3/NO ratio entering catalyst layers after the-first catalyst layer, thus providing a higher amount of consumption of both ammonia and NO_x in a reactor than would be achieved in the absence of the at least one interstage heat exchanger; and

wherein the at least one interstage heat exchanger transfers 50-175°F. of heat; and comprises utilizing a one-piece heat exchange element in a

Ljungstrom-type heat exchanger, and wherein ammonium sulfates and ammonium bisulfates are cleaned from air heater surfaces.